COURSE NUMBER: FHWA-NHI-380003 (1-Day)
FHWA-NHI-380003A (3-Day)

COURSE TITLE: Design and Operation of Work Zone Traffic Control

This course provides participants with information on the safest and most efficient work zone traffic controls, including the application of effective design and installation concepts; and using signs and markings for detours, construction zones, and maintenance sites. The legal, administrative, and operational aspects also will be discussed. Classroom presentations include lectures, case histories, and workshops.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Describe each step involved in providing work zone traffic controls
- Identify and apply workable concepts and techniques for designing, installing, and maintaining controls in construction, maintenance, and utility operations
- Identify appropriate principles in the design of traffic control plans
- Apply traffic control plans to site conditions, monitor traffic controls, and make changes indicated by traffic accidents and incidents
- Discuss techniques and procedures used by different agencies
- Assess the legal consequences of action and inaction relative to work zone traffic control and identify risk management procedures

TARGET AUDIENCE:

Design, construction, and maintenance personnel responsible for designing, installing, and monitoring work zone traffic control.

FEE: $200 Per Participant (FHWA-NHI-38003)

LENGTH: 1.0 Days (CEU: 0.6 Units)

FEE: $400 Per Participant (FHWA-NHI-38003A)

LENGTH: 3.0 Days (CEU: 1.8 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Peter Hatzi • (202) 366-8036 • peter.hatzi@fhwa.dot.gov

This course has different course length options. Visit the NHI Web site for information on each course length.

COURSE NUMBER: FHWA-NHI-380005
COURSE TITLE: Railroad-Highway Grade Crossing Improvement Program

The training provides information on rail-highway crossings, grade crossing components, including program/project development and administration. Workshops will provide the participants a chance to make hands-on applications of the training material, which include such topics as historical background, railroad-highway intersection definition and components, collection and maintenance of data, assessment of crossing safety and operations, identification and selection of alternate improvements, program and project development and implementation, maintenance, and other topics (i.e., private crossings, operation lifesaver).

OUTCOMES:

Upon completion of the course, participants will be able to:

- Develop and implement improvements to railroad-highway grade crossings
- Identify and evaluate techniques and engineering principles used for all crossings

TARGET AUDIENCE:

Federal, State, and local transportation agencies responsible for the design, construction, and/or maintenance of railroad-highway crossings. State and local traffic engineers responsible for highway-railroad grade crossing safety.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Dee Chappell • (202) 366-0087 • debra.chappell@fhwa.dot.gov

If you're interested in this course, you may also want to take advantage of other NHI saftey courses.

151042 Safety Conscious Planning: Planning it Safe
142045 Pedestrian Facility Design
142045 Bicycle Facility Design
137030 Road Weather Management
137044 Improving Highway Safety with Intelligent Transportation Systems (ITS)
133078 Access Management, Location and Design

COURSE NUMBER: FHWA-NHI-380032
COURSE TITLE: AASHTO Roadside Design Guide

This course provides an overview of the AASHTO "Roadside Design Guide." Emphasis is on current highway agency policies and practices. Each student will receive a copy of the AASHTO "Roadside Design Guide" as the course text.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Apply the clear zone concept to all classes of roadways
- Recognize unsafe roadside design features and elements and make appropriate changes
- Identify the need for a traffic barrier
- Select, design, and install a traffic barrier
- Apply safety concepts to roadside features and appurtenance selection/use in work zones
- Compare alternate safety treatments and select a cost-effective design
- Identify policies and practices that are inconsistent with current state-of-the-art
- Apply the clear zone concept to all classes of roadways
- Recognize unsafe roadside design features and elements and make appropriate changes
- Identify the need for a traffic barrier
- Select, design, and install a traffic barrier
- Apply safety concepts to roadside features and appurtenance selection/use in work zones
- Compare alternate safety treatments and select a cost-effective design
- Identify policies and practices that are inconsistent with current state-of-the-art

TARGET AUDIENCE:

Federal, State, and local highway engineers involved in the formulation and/or application of policies and standards relating to the design of safer roadsides.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Richard Powers • (202) 366-1320 • richard.powers@fhwa.dot.gov

Are your primary safety needs for lane departure?
FHWA-NHI-380032 AASHTO Roadside Design Guide – see page 145
FHWA-NHI-380034 (1-Day), FHWA-NHI-380034A (2-Day), FHWA-NHI-380034B (3-Day), Design, Construction, and Maintenance of Highway Safety Appurtenances and Features – see page 146
FHWA-NHI-380070 Safety and Operational Effects of Geometric Design Features for Two-Lane Rural Highways – see page 150

COURSE NUMBER: FHWA-NHI-380034 (1-Day)
FHWA-NHI-380034A (2-Day)
FHWA-NHI-380034B (3-Day)

COURSE TITLE: Design, Construction, and Maintenance of Highway Safety Appurtenances and Features

The course has been developed for a 3-day course presentation but can also be structured into a 1- or 2-day training course. The sponsoring agency will be able to choose the modules for presentation that will best meet its needs. The course covers the design, construction, and maintenance of highway safety appurtenances and features. It covers the purpose and performance requirements of state-of-the-art highway safety features, such as breakaway sign supports, breakaway utility poles, traffic barriers, impact attenuators, traversable terrain, and hardware features such as drainage inlets. The course describes how these features function, what can go wrong, and how to recognize and correct improper installations.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Identify advantages and disadvantages of different types of longitudinal barriers and crash cushions
- Identify National Cooperative Highway Research Program 350 tested safety appurtenances
- Identify application of highway safety appurtenances, why they are used, when and where they should be used, and what is necessary to ensure their function
- Design the placement of, and determine the need for, longitudinal barriers
- Use required installation, construction, and maintenance procedures for proprietary longitudinal barriers, terminals, transitions, crash cushions, bridge railings, and sign supports
- Recognize substandard or potentially hazardous highway appurtenances and features
- Develop alternatives to eliminate, correct, or mitigate unsatisfactory operational characteristics of existing safety devices

TARGET AUDIENCE:

Highway engineers, including local personnel involved in the design, construction, or maintenance of highway safety appurtenances and features. This course is suitable for all local, State, and Federal employees that are involved with the installation and repair of highway appurtenances.

FEE: $200 Per Participant (FHWA-NHI-380034)
LENGTH: 1.0 Days (CEU: 0.6 Units)

FEE: $270 Per Participant (FHWA-NHI-380034A)
LENGTH: 2.0 Days (CEU: 1.2 Units)

FEE: $400 Per Participant (FHWA-NHI-380034B)
LENGTH: 3.0 Days (CEU: 1.8 Units)
CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Harry Taylor • (202) 366-2175 • harry.taylor@fhwa.dot.gov

COURSE NUMBER: FHWA-NHI-380060
COURSE TITLE: Work Zone Traffic Control for Maintenance Operations (Short Term)

This course provides guidance and training for field personnel working in the planning, selection, application, and operation of short-term work zones. The course addresses typical short-term maintenance activities occurring on two-lane rural highways and multilane urban streets and highways. The course covers the applicable standards for work zone protection contained in the "Manual on Uniform Traffic Control Devices" (MUTCD), discussing the need for proper application of devices, while addressing liability issues of highway agencies and individuals. Classroom presentation includes practical exercises to plan, set up, operate, and remove work zone safety devices, including appropriate flagging procedures for these operations.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Apply traffic control through short-term and mobile work areas
- Use national work zone standards and requirements as contained in Part VI of the MUTCD
- Use standard traffic control devices in work zones
- Design and install traffic control schemes for short-term and mobile operations on rural two- and multilane streets and highways.
- Apply proper flagging procedures
- Minimize liability exposure for agencies performing utility and maintenance operations

TARGET AUDIENCE:

State, county, and utility personnel, such as maintenance crews, survey crews, and utility crews, who are responsible for establishing traffic controls through short-term, utility, and maintenance work areas.

FEE: $200 Per Participant

LENGTH: 1.0 Days (CEU: 0.6 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Peter Hatzi • (202) 366-8036 • peter.hatzi@fhwa.dot.gov

If you're interested in this course, you may also want to take advantage of other NHI safety courses.

151042 Safety Conscious Planning: Planning it Safe
142045 Pedestrian Facility Design
142045 Bicycle Facility Design
137030 Road Weather Management
137044 Improving Highway Safety with Intelligent Transportation Systems (ITS)
133078 Access Management, Location and Design

COURSE NUMBER: FHWA-NHI-380063 (1-Day)
FHWA-NHI-380063A (1.5-Day)

COURSE TITLE: Construction Zone Safety Inspection

This course provides training in the management of traffic control plans and the inspection of construction zone safety devices. Participants receive instruction in traffic control plan review, inspection of traffic control procedures and safety devices, and the resolution of discrepancies from the traffic control plan, as well as on deficiencies in safety hardware maintenance. The following major topics are covered: iInspection of traffic control plan operation, maintenance of work zone signs and markings, inspection of construction safety hardware, and resolution of discrepancies from contract requirements.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Recognize the importance of construction zone safety devices
- Identify the contract requirements for selected devices
- Inspect the installation and operation of safety devices, including discrepancies and deficiencies in safety devices
- Resolve discrepancies from the contract requirements and ensure corrections in the deficient safety devices

TARGET AUDIENCE:

FHWA safety engineers, FHWA highway engineers, and State and local personnel involved in the management of traffic control plans and the inspection of construction zone safety devices.

FEE: $200 Per Participant (FHWA-NHI-380063)

LENGTH: 1.0 Days (CEU: 0.6 Units)

FEE: $235 Per Participant (FHWA-NHI-380063A)

LENGTH: 1.5 Days (CEU: 0.9 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Peter Hatzi • (202) 366-8036 • peter.hatzi@fhwa.dot.gov

This course has different course length options. Visit the NHI Web site for information on each course length.

COURSE NUMBER: FHWA-NHI-380069
COURSE TITLE: Road Safety Audits and Road Safety Audit Reviews

Participants in this training will learn how to improve transportation safety by applying a new proactive approach "Road Safety Audits (RSA) and Road Safety Audit Review (RSAR)." This technique provides an examination of a future or existing roadway by an independent, qualified audit team. The RSA is a way for your agency to improve safety and to communicate to the public how you are working toward accident reductions.

This course includes "hands-on" application of the training materials which include such topics as road safety audit definition and history, why care about safety, stages of a road safety audit, details on how to conduct a road safety audit, easy-to-use-checklists, and legal considerations.

This training provides practical information on how to conduct a road safety audit. Students will receive a copy of the "Road Safety Audits and Road Safety Audit Reviews Reference Manual."

OUTCOMES:

Upon completion of the course, participants will be able to:

- Express the road safety audit process terminology
- Perform a simple road safety audit, as a member of a team
- Assess the benefits of a road safety audit on a statewide basis

TARGET AUDIENCE:

Federal, State, and local transportation personnel who are likely to serve on a Road Safety Audit team. Consultants who conduct highway safety studies also may attend.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Louisa Ward • (202) 366-2218 • louisa.ward@fhwa.dot.gov

COURSE NUMBER: FHWA-NHI-380070
COURSE TITLE: Safety and Operational Effects of Geometric Design Features for Two-Lane Rural Highways

This course provides quantitative safety assessment methods to the design process for two-lane rural highways. Emphasis is on the application of safety research results to design decisions for application of the requirements and guidelines detailed in the 2001 AASHTO Green Book for curvature, lane width, shoulder width, grade, and intersection. Each student will receive a copy of the "Safety and Operation Effects of Highway Design Features for Two-Lane Rural Highways" manual.

IMPORTANT: Participants should bring a scientific notation calculator as we will be doing calculations of decimal value to decimal power for crash prediction values.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Identify changes in geometric design practices detailed in the AASHTO 2001 Green Book
- Recognize the safety effects of geometric design features
- Calculate the quantitative safety measures of geometric design features
- Apply reconstruction to only those segments/features with higher-than-expected crash experience
- Compare alternative designs based upon an assessment of the safety effects of geometric design features

TARGET AUDIENCE:

State and local highway engineers and consultants involved in the design of two-lane rural highways.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Fred Ranck • (708) 283-3545 • fred.ranck@fhwa.dot.gov

Are your primary safety needs for lane departure?
FHWA-NHI-380032 AASHTO Roadside Design Guide – see page 145
FHWA-NHI-380034 (1-Day), FHWA-NHI-380034A (2-Day), FHWA-NHI-380034B (3-Day), Design, Construction, and Maintenance of Highway Safety Appurtenances and Features – see page 146
FHWA-NHI-380070 Safety and Operational Effects of Geometric Design Features for Two-Lane Rural Highways – see page 150

COURSE NUMBER: FHWA-NHI-380071
COURSE TITLE: Interactive Highway Safety Design Model

NEW COURSE

Minimum System Specifications: Operating System - Windows 95, 98, NT 4.0, Me, 2000 Professional or XP; HTML Browser - Microsoft Internet Explorer, Netscape Navigator, Foxfire or Mozilla; Hardware - At least 450 MHz x 86 compatible CPU, 128 MB RAM, 800x600 high colors (16 bit) display; and 300 MB free disk space

There should be no more than two participants per computer.

This course will instruct highway design project managers, planners, designers, and traffic and safety reviewers in the application of the Interactive Highway Safety Design Model (IHSDM) software and will provide guidance on interpretation of the output.

IHSDM is a suite of software tools to evaluate safety of two-lane rural highways. The software, developed for FHWA, was released in 2003 after several years of research and development to provide state-of-the-art techniques for safety analysis. IHSDM contains five tools that can be used to apply the most recent safety analysis techniques in a relatively straightforward and automated manner. For more information about IHSDM, go to www.tfhrc.gov/safety/ihsdm/ihsdm.htm.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Describe key capabilities and limitations of IHSDM
- Evaluate a two-lane rural highway using IHSDM
- Recognize when and how IHSDM can be used in the project development process

TARGET AUDIENCE:

Highway design project managers, planners, designers, and traffic and safety reviewers with at least one or two years of experience with highway design, preferably two-lane rural highway design.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Clayton Chen • (202) 366-4656 • clayton.chen@fhwa.dot.gov
Technical Information: Ray Krammes • (202) 493-3312 • ray.krammes@fhwa.dot.gov

If you're interested in this course, you may also want to take advantage of other NHI safety courses.

151042 Safety Conscious Planning: Planning it Safe
142045 Pedestrian Facility Design
142045 Bicycle Facility Design
137030 Road Weather Management
137044 Improving Highway Safety with Intelligent Transportation Systems (ITS)
133078 Access Management, Location and Design

COURSE NUMBER: FHWA-NHI-380072
COURSE TITLE: Advanced Work Zone Management and Design

The purpose of this course is to provide learners with the skill and knowledge of both technical and non-technical aspects of work zone traffic control practices. The course includes principles of "best practices" for the planning, design, project management, and contract techniques needed to insure high quality work zone traffic control.

This training course is designed for those that understand principles of engineering judgment and studies, have considerable management or design experience in work zone traffic control, and have an understanding of the "Manual on Uniform Traffic Control Devices" (MUTCD) 2003 Edition Parts 1, 5, and 6. The training includes planned student interaction so that unique experiences can be shared and self-teaching can take place.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Apply the latest safety and mobility design concepts as it relates to temporary traffic control (TTC) plans for work zones.
- Identify the latest MUTCD principles as it relates to TTC plans for planning, design, project management, and describe the various contracting issues, e.g., A+B bidding, lane rental, etc. that may need to be resolved.
- Demonstrate knowledge of key concepts in the AASHTO Design Guide and other standards as related to such items as worker and flagger apparel (such as ANSI and similar standard guides).
- Evaluate work zone temporary traffic control designs for nighttime and daytime issues.
- Analyze and evaluate operational, safety and mobility impacts of work zones, including scheduling, scope, phases and alternate routes. This should include: (1) describing data and software available to assist in analyzing the impacts of work zones and alternative strategies and (2) identification of work zone hazards and common risks to adjacent traffic and possible countermeasures to minimize these impacts.
- List elements necessary for successful contracts and identify strategies for resolving contract issues, including best practices in work zone contracting, also identify tools to resolve conflicts with contracting issues.
- Identify and analyze specific (key) issues and concerns that affect work zone design and demonstrate ability to explain safety and mobility issues, impacts and alternatives to peers, public and/or decision makers.

TARGET AUDIENCE:

The target audience will include state and local Design Engineers, Traffic and Safety Engineers, Senior Work Zone Traffic Engineers, Transportation Planners, Employees of Metropolitan. Planning Organizations (MPOs) and Board Members, Regional Planners, Regional Construction Engineers (with work zone experience), and Senior Engineering Technicians.

FEE: $400 Per Participant

LENGTH: 3.0 Days (CEU: 1.8 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Peter Hatzi • (202) 366-8036 • peter.hatzi@fhwa.dot.gov

COURSE NUMBER: FHWA-NHI-380073
COURSE TITLE: Fundamentals of Planning, Design and Approval of Interchange Improvements to the Interstate System

NEW COURSE

This course presents the fundamentals of planning, design, and approval of interchange improvements to the interstate system. It includes service and system interchange types, 8-point interchange justification process, interchange study and selection process, fundamentals of freeway system operations and planning, urban freeway diagnosis, geometric design considerations, and technical and documentation procedures. The training includes several major work problems.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Compare and contrast the traffic operational and design attributes of different service interchange types
- Develop an understanding of the eight elements of the FHWA policy, including their intents
- Review and apply the 12 Principles of Good Urban Freeway Planning and Design
- Review key geometric features of ramps, terminals, alignment, and cross section
- Understand the application of FHWA design exception policies with respect to interchange design elements, features, and decisions
- Learn who and which FHWA offices are responsible for approvals
- Learn the general contents of an Interchange Justification Report (IJR) and explain the components of a complete operational analysis, including the manner in which safety is assessed

TARGET AUDIENCE:

The target audience for the course is traffic engineers and transportation professionals with one to five years working experience.

FEE: $270 Per Participant

LENGTH: 2.0 Days (CEU: 1.2 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Mark Doctor • (404) 562-3732 • mark.doctor@fhwa.dot.gov

Are your primary safety needs for intersections?
FHWA-NHI-133078 Access Management, Location and Design – see page 69
FHWA-NHI-380005 Railroad-Highway Grade Crossing Improvement Program– see page 144
FHWA-NHI-380073 Fundamentals of Planning, Design and Approval of Interchange Improvements to the Interstate System – see page 153
FHWA-NHI-380074 Designing and Operating Intersections for Safety – see page 154

COURSE NUMBER: FHWA-NHI-380074
COURSE TITLE: Designing and Operating Intersections for Safety

NEW COURSE

This course consists of a series of six modules that can be presented individually, or as an entire package, over a three-day period. This course examines various aspects of design and operations and how they affect the safety of an intersection and its various users. The full course contains a total of six modules: Users and Intersections; Diagnostics and Countermeasures; Geometric Design; Unsignalized Intersections; Signalized Intersections and Case Studies. This course is designed to be interactive with numerous discussions, exercises, and case studies.

OUTCOMES:

Upon completion of the course, participants will be able to:

- List the user groups to consider
- Describe user characteristics and how they affect intersection design and safety
- Describe approaches to balance needs of different user groups
- Review how to determine which intersections have poor crash experience
- Review how to assess causes of high crash experience or high potential
- Describe how to select appropriate countermeasures
- Define intersection design objectives, controls, and focus area
- Identify key safety-related intersection geometric design decisions, applications, and assumptions
- Describe the measured and potential safety improvements that result from key intersection geometrics
- Describe safety issues at unsignalized intersections
- Summarize MUTCD requirements for signalizing an intersection
- Select appropriate countermeasures to address safety issues at unsignalized intersections
- Identify common safety concerns at signalized intersections
- Discuss contributing factors to safety concerns
- Select countermeasures to improve signalized intersection safety

TARGET AUDIENCE:

The target audience for the course is traffic engineers and transportation professionals with one to five years of working experience.

FEE: $400 Per Participant

LENGTH: 3.0 Days (CEU: 1.8 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Clayton Chen • (202) 366-4656 • clayton.chen@fhwa.dot.gov

FHWA Mission – Enhancing mobility through innovation, leadership, and public service.

COURSE NUMBER: FHWA-NHI-380075
COURSE TITLE: New Approaches to Highway Safety Analysis

NEW COURSE

The primary purpose of this course is to help attendees gain an understanding of the Highway Safety Improvement Program (HSIP) process, safety engineering principles and human factors issues related to traffic and road safety. It also provides the participant with an explanation of the latest methods for identifying collision causes and selecting cost-effective safety improvements. Finally, this course will serve as a prerequisite for those who will be utilizing SafetyAnalyst, a set of software tools currently under development that are designed to assist State and local agencies to improve the decision-making process in implementing safety improvement projects.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Describe the components of the Highway Safety Improvement Plan (HSIP)
- Explain safety engineering principles relevant to planning for highway safety improvement measures specific to three types of crashes - roadway departures, intersection-related, and pedestrian
- Describe the relevance and impact of human factors in the planning of highway safety improvement measures for three types of crashes - roadway departures, intersection-related, and pedestrian
- Determine strategies for the selection of cost-effective highway safety improvement measures for three types of crashes - roadway departures, intersection-related, and pedestrian

TARGET AUDIENCE:

This course is intended primarily for State DOT staff involved with the Highway Safety Improvement Program, and for FHWA safety specialists. These specialists include engineers, planners, and technicians.

FEE: $400 Per Participant

LENGTH: 3.0 Days (CEU: 1.8 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Kenneth Epstein • (202) 366-4656 • Kenneth.Epstein@fhwa.dot.gov

Ready to request a course? Please complete the On-Site Course Request Form (FWHA Form 1530) located in the back of the catalog.

COURSE NUMBER: FHWA-NHI-380076
COURSE TITLE: Low-Cost Safety Improvements Workshop

NEW COURSE

This course provides a comprehensive synthesis of low-cost, ready-to-use safety improvements. The workshop presents a synthesis of countermeasures and their associated crash reduction factors as identified in the "AASHTO Strategic Highway Safety Plan • NCHRP 500 Guidebooks." Each participant will receive a copy of the NHI "Low Cost Safety Improvements Workshop: Participant Workbook" as the course text.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Identify appropriate engineering countermeasures from crash patterns
- Recognize deficiencies in operation/design and select appropriate countermeasures for roadside hazards
- Recognize deficiencies in safety performance of signing, markings, and lighting, and select appropriate countermeasures
- Recognize deficiencies in operation/design of intersections and select appropriate countermeasures
- Recognize deficiencies in operation/design of traffic signals and select appropriate countermeasures
- Recognize deficiencies in operation/design of railroad grade crossings and select appropriate countermeasures
- Illustrate new and innovative low-cost safety improvement measures developed by State DOTs

TARGET AUDIENCE:

Federal, State, and local transportation, traffic and safety engineers, and planners involved in reducing intersection crashes.

FEE: $200 Per Participant

LENGTH: 1.0 Days (CEU: 0.6 Units)

CLASS SIZE: Minimum: 20; Maximum: 35

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: John McFadden • (410) 962-2482 • john.mcfadden@fhwa.dot.gov

If you're interested in this course, you may also want to take advantage of other NHI safety courses.

151042 Safety Conscious Planning: Planning it Safe
142045 Pedestrian Facility Design
142045 Bicycle Facility Design
137030 Road Weather Management
137044 Improving Highway Safety with Intelligent Transportation Systems (ITS)
133078 Access Management, Location and Design

COURSE NUMBER: FHWA-NHI-380077
COURSE TITLE: Intersection Safety Workshop

NEW COURSE

The course provides ready-to-use direct-application safety measures for rural unsignalized intersections and for signalized intersections. The workshop presents a synthesis of countermeasures and their associated crash reduction factors as identified in the "AASHTO Strategic Highway Safety Plan - NCHRP 500 Guidebooks." Each participant will receive a copy of the NHI "Intersection Safety Workshop: Participant Workbook" as the course text.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Apply models (equations) to predict number of crashes for an intersection based upon traffic volumes
- Identify high crash intersections and recognize appropriate engineering countermeasures
- Identify crash reduction factors/crash modification factors associated with countermeasures
- Describe safety performance of intersection geometric design features and the models to quantify the safety effect
- List regulatory, warning, and guide signing and markings countermeasures and associated safety benefits
- List highway lighting countermeasures and associated safety benefits
- List traffic signal countermeasures and associated safety benefits

TARGET AUDIENCE:

Federal, State, and local transportation, traffic and safety engineers and planners involved in reducing intersection crashes.

FEE: $200 Per Participant

LENGTH: 1.0 Days (CEU: 0.6 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Fred Ranck • (708) 283-3545 • fred.ranck@fhwa.dot.gov

Are your primary safety needs for safety management?
FHWA-NHI-151042 Safety Conscious Planning: Planning it Safe – see page 132
FHWA-NHI-380071 Interactive Highway Safety Design Model – see page 151
FHWA-NHI-380075 New Approaches to Highway Safety Analysis – see page 155
FHWA-NHI-380076 Low-Cost Safety Improvements Workshop – see page 156
FHWA-NHI-380077 Intersection Safety Workshop – see page 157
FHWA-NHI-380078 Signalized Intersection Guidebook Workshop – see page 158

COURSE NUMBER: FHWA-NHI-380078
COURSE TITLE: Signalized Intersection Guidebook Workshop

NEW COURSE

This course provides an overview of the new FHWA publication "Signalized Intersections: Informational Guide FHWA-HRT-04-091." Emphasis is on methods for evaluating the safety and operations of signalized intersections and tools to remedy deficiencies. Each participant will receive a copy of the FHWA "Signalized Intersections: Information Guide."

OUTCOMES:

Upon completion of the course, participants will be able to:

- Recognize and apply fundamentals of signalized intersections in terms of user needs, geometric design, traffic design, and illumination
- Describe signalized intersection project process, safety analysis methods, and operational analysis methods
- Describe the five types of signalized intersection treatments and their advantages and disadvantages

TARGET AUDIENCE:

Federal, State, and local transportation, traffic and safety engineers, and planners involved in planning, designing, operating, and remedying crash problems for signalized intersections.

FEE: $200 Per Participant

LENGTH: 1.0 Days (CEU: 0.6 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

NHI Training Program Manager: Bill Williams • (703) 235-0539 • bill.williams@fhwa.dot.gov
Technical Information: Fred Ranck • (708) 283-3545 • fred.ranck@fhwa.dot.gov

Are your primary safety needs for bicycles and pedestrians?
FHWA-NHI-142045 Pedestrian Facility Design – see page 120
FHWA-NHI-142046 Bicycle Facility Design – see page 121

COURSE NUMBER: FHWA-NHI-380079
COURSE TITLE: AASHTO Roadside Design Guide, Web-Based

Computer Requirements: You will need a fairly recent version of a browser (such as Internet Explorer 4 or 5 or Netscape 4 with Javascript enabled), the latest versions of Macromedia Shockwave and Flash (download), and a connection to the Internet (at least 56K modem). An older computer such as a Pentium 100 would work but it would just be slower than a Pentium III.

This course provides an overview of the AASHTO "Roadside Design Guide." Emphasis is on current highway agency policies and practices. The AASHTO "Roadside Design Guide" is the textbook for this course. Directions on how to obtain a copy of this book can be found on the NHI Web site

OUTCOMES:

Upon completion of the course, participants will be able to:

- Apply the clear zone concept to all classes of roadways
- Recognize unsafe roadside design features and elements and make appropriate changes
- Identify the need for a traffic barrier
- Select, design and install a traffic barrier
- Apply safety concepts to roadside features and appurtenance selection/use in work zones
- Compare alternate safety treatments and select a cost-effective design
- Identify policies and practices that are inconsistent with current state-of-the-art

TARGET AUDIENCE:

Federal, State and local highway engineers involved in the formulation and/or application of policies and standards relating to the design of safer roadsides. Participant must register online at www.nhi.fhwa.dot.gov/registerdl.asp. Participant information, billing address, and credit card information must be provided when registering online. Participants will have a userid and password sent to them via e-mail after authorization in order to log in to the course from the distance learning page on the CITE website at www.citeconsortium.org.

Registration: Participant must register online at www.nhi.fhwa.dot.gov/registerdl.asp.

FEE: Free

LENGTH: 14.0 Hours (CEU: 1.2 Units)

CLASS SIZE: Minimum: N/A; Maximum: N/A

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To purchase a copy of the RSDG-3 Roadside Design Guide, 3rd, Edition please go to the AASHTO Web site at www.aashto.org.